

Species distribution in Mt. Hope Bay and Taunton River Estuary

The preliminary recommended species list presented at the first TAC meeting on March 9, 2017 contained 44 species. The list was composed of the Representative Important Species (RIS) for Brayton Point Station and the Taunton Municipal Lighting Plant; ESA listed species and species of concern present in MHB, diadromous fish, and 24 US EPA Virginia Province criteria data base species found in MHB. Some of these species overlapped (for example Winter Flounder is both a RIS for Brayton Point Station and in US EPA Virginia Province criteria data base; Table1).

Table 1. The preliminary recommended species for the development of dissolved oxygen criteria for Mount Hope Bay and the Taunton River. The blue shading indicates species included in the Virginian Province criteria data base (Table 7 in the Material for TAC 1).

Preliminary Recommended Species			
Common Name	Scientific Name	Common Name	Scientific Name
Alewife	<i>Alosa pseudoharengus</i>	Naked Goby	<i>Gobiosoma bosc</i>
American Eel	<i>Anguilla rostrata</i>	Northern Pipefish	<i>Syngnathus fuscus</i>
American Lobster	<i>Homarus americanus</i>	Northern Searobin	<i>Prionotus carolinus</i>
American Shad	<i>Alosa sapidissima</i>	Quahog (Hard clam)	<i>Mercenaria mercenaria</i>
Atlantic Menhaden	<i>Brevoortia tyrannus</i>	Rainbow Smelt	<i>Osmerus mordax</i>
Atlantic Silverside	<i>Menidia menidia</i>	Sand Lance	<i>Ammodytes spp.</i>
Atlantic Sturgeon	<i>Acipenser oxyrinchus oxyrinchus</i>	Sand Shrimp	<i>Crangon septemspinosa</i>
Atlantic Surfclam	<i>Spisula solidissima</i>	Say Mud Crab	<i>Dyspanopeus sayi</i>
Bay Anchovy	<i>Anchoa mitchilli</i>	Scup	<i>Stenotomus chrysops</i>
Banded Killifish	<i>Fundulus diaphanus</i>	Seaboard Goby	<i>Gobiosoma ginsburgi</i>
Blueback Herring	<i>Alosa aestivalis</i>	Sheepshead Minnow	<i>Cyprinodon variegatus</i>
Blue Crab	<i>Callinectes sapidus</i>	Shortnose Sturgeon	<i>Acipenser brevirostrum</i>
Bluefish	<i>Pomatomus saltatrix</i>	Silver Hake	<i>Merluccius bilinearis</i>
Bluegill	<i>Lepomis macrochirus</i>	Spot	<i>Leiostomus xanthurus</i>
Blue Mussel	<i>Mytilus edulis</i>	Striped Bass	<i>Morone saxatilis</i>
Cancer Crab	<i>Cancer irroratus</i> & <i>C. borealis</i>	Summer Flounder	<i>Paralichthys dentatus</i>
Four-eye Amphipod	<i>Ampelisca abdita</i>	Tautog	<i>Tautog onitis</i>
Fourspine Stickleback	<i>Apeltes quadricus</i>	Threespine Stickleback	<i>Gasterosteus aculeatus</i>
Green Crab	<i>Carcinus maenas</i>	Weakfish	<i>Cynoscion regalis</i>
Hogchoker	<i>Trinectes maculatus</i>	White Perch	<i>Morone americana</i>
Largemouth Bass	<i>Micropterus salmoides</i>	Window pane	<i>Scophthalmus aquosus</i>
Longfin Squid	<i>Loligo peali</i>	Winter Flounder	<i>Pseudopleuronectes americanus</i>

Finalization of Species List and Additional Proposed Species

At the first TAC meeting the following species were requested by the members to be included in the recommended species list: Black Sea Bass, Butterfish, softshell clam, Atlantic nut shell and other missing RIS species, Atlantic Tomcod, and horseshoe crab. Several TAC members also requested several other species (sea-run brook trout, spider crab, channel whelk, knobbed whelk, mantis shrimp, and another shrimp besides *Crangon*) to be included in the list after the meeting. RIDEM provided the most substantial list for consideration containing 24 individual species (Table 2) and 5 broad species groups (pandilid shrimp, mysid shrimp, mud crab, hermit crab, and amphipod). RIDEM also recommended removing Banded Killifish from the species list.

Table 2. List of species not included in the preliminary recommended species list that RIDEM thought may be important to consider adding to the final recommended species list for Massachusetts dissolved oxygen criteria development for Mouth Hope Bay and the Taunton River. List status and comments regarding inclusion in the species list are also shown.

Common Name	Added to list	Comments
Atlantic Cod	Yes	Important commercial species that has shown poor population recovery
Atlantic Herring	No	4 other species of clupeids are on the list
Atlantic Needlefish	No	Surface-dwelling species, estuaries/coastal areas, uncommon in Mt. Hope Bay
Cunner	No	Tautog, another wrasse species, is on the list and has DO data
Eastern Oyster	Yes	MassGIS shellfish layer shows suitable habitat in the Taunton River, brackish waters, intertidal/subtidal areas, reef former
Grubby	Yes	Demersal, marine/brackish, spawning in Mt. Hope Bay
Hickory Shad	No	3 other <i>Alosa</i> spp. are on the list
Inshore Lizardfish	No	Seasonally warm-water species, no spawning indicated, present
Japanese Shore Crab	No	Invasive species, green crab is on the list and has DO data
Little Skate	Yes	Demersal, most common skate species in Mt. Hope Bay, increasing abundance in Narragansett Bay based on URI data
Mantis Shrimp	Yes	Overlapping TAC member request, benthic invertebrate, estuarine resident
Mummichog	Yes	Found in the intertidal/shallow water areas, 3rd abundant species in 60-ft seine and 5th most abundant in 300-ft seine
Ninespine Stickleback	No	2 other stickleback species are on the list and are common in our study area
Northern Kingfish	Yes	Occurs in the complete study area, seasonal migrant, beach seine
Northern Puffer	No	Demersal for all life stages, not very abundant or rare, no indication of a change in abundance
Oyster Toadfish	Yes	Demersal for all life stages, estuarine resident
Razor Clam	No	4 other bivalves are on the list, MassGIS shellfish map does not indicate habitat in our study area
Red Hake	Yes	Demersal juvenile and adult life stages, declining abundance
Ribbed Mussel	No	3 other intertidal/subtidal bivalves are on the list
Smallmouth Flounder	No	4 other flounder species are on the list including Hogchoker which occurs in the entire study area
Smooth Dogfish	Yes	Pelagic, most common shark species in Mt. Hope Bay
Spotted Hake	No	2 other gadids species are on the list
Striped Killifish	Yes	Found in the intertidal/shallow water areas, 2nd abundant species in 60-ft seine and 3rd most abundant in 300-ft seine
Striped Searobin	No	Northern Searobin is on the list and has DO data

The individual species suggested by RIDEM were considered and added to the list based on habitat suitability data or requirements, life stages using the study area, abundance and or documented changes in abundance, the presence or absence of other genus or family members on the list, and the range of the study area used by the species.

The study area for marine dissolved oxygen (DO) criteria review for Mount Hope Bay and Taunton River has been defined as the portions of Mount Hope Bay that are in Massachusetts and the mainstem of the Taunton River upstream of the Taunton WWTP. Banded Killifish along with Bluegill, Largemouth Bass, and Yellow Perch have been identified as Representative Important Species for the Taunton River in the vicinity of the Taunton Municipal Lighting Plant (TMLP) by Massachusetts Division of Marine Fisheries. TMLP is located downstream of the Taunton WWTP. Various life stages of each of these species have also been collected at the Taunton River Desalination Plant (downstream of TMLP) during baseline studies and operational monitoring (Metcalf & Eddy and AECOM 2008, AECOM 2010). Therefore these four species have remained on the recommended species list.

Bowman et al. (2000) was reviewed for the types of prey items eaten by fishes and two common squid species off the northeastern United States. The study examined 170 predators, with 59 species feeding primarily on fish and or squid. Common fish and squid taken as prey included Northern Sand Lance, hakes, herrings, mackerels, Butterfish, anchovies, Scup, flatfish, sculpins, longfin inshore squid and northern shortfin squid. Southern New England piscivores ate Northern Sand Lance, Silver Hake, Atlantic Cod, gadids, and herrings (Bowman et al. 2000). The review indicated that the preliminary recommended species list contained a number of species that are prey items for other fish and marine mammals indicating that the DO criteria review will protect the forage base.

Inclusion of individual species

Sea – run Brook Trout: The Taunton River is reported to have populations of Brook Trout that move into the mainstem of the Taunton River which would allow access to the estuarine areas of the lower Taunton River. Fishermen have reported salter trout from the Bridgewater/Raynham Area (Hurley 2006). The Taunton River is generally a warmwater fisheries habitat, however it can support coldwater species such as Brook Trout during the cooler months (September to May) when water temperatures dip below 70-75 °F. Wild Brook Trout populations and the coldwater habitats of southeastern Massachusetts that they inhabit have been damaged by almost 400 years of development and man-made habitat modifications. When Brook Trout have access to the ocean or estuarine areas (such as the lower Taunton River), some portion of the population can enter the marine environment and become what are known as “Salters” or sea run Brook Trout (Hurley 2006).

Due to the current scarcity of sea-run brook trout, we have limited information on their life history. Generally, brook trout are a coldwater species unable to tolerate the typical summer

temperatures in ponds, large rivers and shallow estuarine areas in southeastern Massachusetts. The small first order groundwater fed headwater streams that support wild brook trout in this area offer limited space and food resources. When these streams connect to a larger habitat, such as the ocean or estuaries, some of the Brook Trout can migrate into these larger habitats when conditions are suitable and take advantage of a larger food supply growing faster and larger than resident trout (Hurley 2006). Brook Trout spawning in this region starts approximately the first week in November (range: Late October to late December) in limited stream spawning areas that contain upwelling springs and groundwater seeps with sand and gravel substrates (Hurley 2006).

The Taunton River Watershed has a handful of wild Brook Trout streams, some of which offer the potential for trout migration into the Taunton River when water conditions are suitable (Table 3). These conditions generally occur annually in late September through mid- May; isolated habitat may occur during the summer months within the mainstem at mouths of coldwater tributaries or spring holes. Two coldwater fish resources (CFR; streams) enter the Taunton River in our study area, the Segreganset River and Berkley Bridge Creek, and a third enters slightly upstream of the Taunton Wastewater Treat Plant (Coldwater Fish Resources List 2017). Twelve Brook Trout were collected at Berkley Bridge Creek - Taunton River in September 1994 (Table 3). Additionally, a Brook Trout was collected in the vicinity of the Taunton River Desalination Plant on April 26, 2007 during baseline studies although they are not typically found in this section of the River (Metcalf & Eddy and AECOM 2008). Rainfall in April 2007 was 7.92 inches, 3.76 inches above normal, with 6.75 inches falling before the sampling date (National Climate Data Center 2007, T.F. Green Airport).

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Table 3. Fisheries survey data from streams containing brook trout with the potential for migration into the lower Taunton River mainstem in order of increasing distance from Braga Bridge in Fall River (from Southeast District Files; taken from Hurley 2006).

Stream Name	Town	Sample Date and Location	Brook Trout (number) (size range)	Other Fish species	Fish Passage Obstructions
UT- Taunton River (Berkley Bridge Creek)	Berkley	Sept. 21, 1994 (Elm Street and Bayview)	12 (78-262 mm)	American eel (observed), white sucker (11)	None known
Clark Brook	Berkley	Sept. 21, 1994 Burt Street and Berkley Street	1 (182 mm)	American eel (common), redbfin pickerel (2), white sucker (1), brown bullhead, pumpkinseed (4), tessellated darter	None known
UT-Taunton River	Raynham	June 22, 2005 Thrasher Street	16 (56-148mm)	American Eel (3)	None known
Cotley River	Taunton	08/6/1997 Hart Street (Below Barstows Pond)	1 (257 mm)	American eel (abundant) , Chain pickerel (1), pumpkinseed(2), largemouth bass(2), swamp darter(1)	Barstow Pond Dam
UT-Taunton River	Raynham	June 30, 2005 Up from Hill Street	4 (86-102 mm)	American eel (7)	None known
UT-Taunton River (McGarrys Brook)	Raynham	08/09/1990 (cart road N of Route 44)	30	American eel (1)	None known
Puddingshear Brook	Middleboro	09/01/1989 (Clay Street)	42	American eel (20), redbfin pickerel (10), tessellated darter (33), swamp darter (3)	None known
(UT-Poquoy Brook) (Leonard Washburn Brook)	Lakeville	09/30/2002 (S. of Rte 44)	19 (73-240 mm)	American eel (4), banded sunfish (2)	None known
Bassett Brook	Raynham	July 17, 1990 Below Pine street	7 (52-196 mm)	American eel (5), redbfin pickerel (5), tessellated darter (5)	None known

UT=un-named (on USGS 7.5 minute topographic maps) tributary

Sturgeon: Atlantic Sturgeon and Shortnose Sturgeon are listed as endangered under the federal Endangered Species Act (ESA) and the Massachusetts Endangered Species Act (MESA). The Greater Atlantic Regional Fisheries Office (GARFO) Master ESA species presence tables indicate that the lower region of the Taunton River can provide foraging habitat, wherever suitable forage is present, for subadult and adult Atlantic Sturgeon; and Narragansett Bay (throughout the bay) can provide foraging habitat, wherever suitable forage is present, for adult Shortnose Sturgeon (GARFO 2017a, b).

Historical records indicate that Atlantic Sturgeon spawned in the Taunton River to at least the turn of the century (Tracy 1905 as cited by Green et al. 2009). Buerkett and Kynard (1993) surveyed the Taunton River for both Atlantic and Shortnose Sturgeon in 1991 and 1992 using gill nets set from Mount Hope Bay to river mile 21. Three Atlantic Sturgeons were collected. All three fish were in poor condition and the authors concluded that they were strays probably originating from the Hudson River. Buerkett and Kynard (1993) concluded that the Taunton River was unlikely to have a spawning population of Atlantic Sturgeon. Buerkett and Kynard (1993) is the only documented record of sturgeon of either species in the Taunton River in recent years. A fisherman in June 2004 fishing in Rhode Island state waters noted that the first three fathoms of towed gear held three juvenile Atlantic or Shortnose Sturgeons (Anoushian 2004). Two Atlantic Sturgeons have been collected by RIDEM Trawl Survey since 1997; one captured in Narragansett Bay in 1997 measured 85 cm TL and the other captured in Rhode Island Sound in October 2005 measured 130 cm TL (Greene et al. 2009). The NMFS observer program has also documented Atlantic Sturgeon bycatch in federal waters off the coast of Rhode Island (Greene et al. 2009). Acoustic tagging studies in other areas have raised questions about the efficiency of trawls and other past method in collecting and detecting sturgeons in rivers. Currently Massachusetts DMF does not maintain any acoustic receivers in the Taunton River (personal communication Michael Bednarski, MA DMF May 2015).

Older juvenile and adult Atlantic and Shortnose Sturgeon are known to inhabit low-salinity and marine areas (Greene et al. 2009, Fernandes et al. 2010, Zydlewski et al. 2011). Juvenile Shortnose Sturgeon have been shown to be quite sensitive to low DO in acute tests at low salinities (Campbell and Goodman 2004). Negative effects of hypoxia on juvenile Atlantic Sturgeon survival and growth have also been shown (Secor and Gunderson 1998).

Final Recommended Species List

Table 4 show the species that have been added to the initial preliminary species list during the first TAC meeting (brownish-red species) and requested by TAC members and to be considered by RIDEM during the follow-up period (red species). Table 5 shows the final version of the recommended species list. The final list contains 68 taxa.

Table 4. Recommended species for the development of dissolved oxygen criteria for Mount Hope Bay and the Taunton River. The brownish-red species were suggested at the first TAC meeting. The red species are those that were suggested by TAC members and RIDEM after the first TAC meeting. The blue shading indicates species included in the Virginian Province criteria data base.

Recommended Species			
Common Name	Scientific Name	Common Name	Scientific Name
Alewife	<i>Alosa pseudoharengus</i>	Mantis Shrimp	<i>Squilla empusa</i>
American Eel	<i>Anguilla rostrata</i>	Mummichog	<i>Fundulus heteroclitus</i>
American Lobster	<i>Homarus americanus</i>	Mysid Shrimp	Mysidae
American Shad	<i>Alosa sapidissima</i>	Naked Goby	<i>Gobiosoma bosc</i>
Atlantic Cod	<i>Gadus morhua</i>	Northern Kingfish	<i>Menticirrhus saxatilis</i>
Atlantic Menhaden	<i>Brevoortia tyrannus</i>	Northern Pipefish	<i>Syngnathus fuscus</i>
Atlantic Nut Shell	<i>Nucula spp.</i>	Northern Seabobin	<i>Prionotus carolinus</i>
Atlantic Silverside	<i>Menidia menidia</i>	Oyster Toadfish	<i>Opsanus tau</i>
Atlantic Sturgeon	<i>Acipenser oxyrinchus oxyrinchus</i>	Quahog (Hard clam)	<i>Mercenaria mercenaria</i>
Atlantic Surfclam	<i>Spisula solidissima</i>	Rainbow Smelt	<i>Osmerus mordax</i>
Atlantic Tomcod	<i>Microgadus tomcod</i>	Red Hake	<i>Urophycis chuss</i>
Banded Killifish	<i>Fundulus diaphanus</i>	Sand Lance	<i>Ammodytes spp.</i>
Bay Anchovy	<i>Anchoa mitchilli</i>	Sand Shrimp	<i>Crangon septemspinosa</i>
Black Sea Bass	<i>Centropristis striata</i>	Say Mud Crab	<i>Dyspanopeus sayi</i>
Blue Crab	<i>Callinectes sapidus</i>	Scup	<i>Stenotomus chrysops</i>
Blue Mussel	<i>Mytilus edulis</i>	Seaboard Goby	<i>Gobiosoma ginsburgi</i>
Blueback Herring	<i>Alosa aestivalis</i>	Sheepshead Minnow	<i>Cyprinodon variegatus</i>
Bluefish	<i>Pomatomus saltatrix</i>	Shortnose Sturgeon	<i>Acipenser brevirostrum</i>
Bluegill	<i>Lepomis macrochirus</i>	Silver Hake	<i>Merluccius bilinearis</i>
Brook Trout (sea-run)	<i>Salvelinus fontinalis</i>	Smooth Dogfish	<i>Mustelus canis</i>
Butterfish	<i>Peprilus triacanthus</i>	Softshell Clam	<i>Mya arenaria</i>
Cancer Crab	<i>Cancer irroratus & C. borealis</i>	Spider Crab	<i>Libinia emarginata</i>
Channeled Whelk	<i>Busycotypus canalictulatus</i>	Spot	<i>Leiostomus xanthurus</i>
Eastern Oyster	<i>Crassostrea virginica</i>	Striped Bass	<i>Morone saxatilis</i>
Four-eye Amphipod	<i>Ampelisca abdita</i>	Striped Killifish	<i>Fundulus majalis</i>
Fourspine Stickleback	<i>Apeltes quadracus</i>	Summer Flounder	<i>Paralichthys dentatus</i>
Green Crab	<i>Carcinus maenas</i>	Tautog	<i>Tautog onitis</i>
Grubby	<i>Myoxocephalus aeneus</i>	Threespine Stickleback	<i>Gasterosteus aculeatus</i>
Hogchoker	<i>Trinectes maculatus</i>	Tube Worm	<i>Mediomastus ambiseta</i>
Horseshoe Crab	<i>Limulus polyphemus</i>	Weakfish	<i>Cynoscion regalis</i>
Knobbed Whelk	<i>Busycon carica</i>	White Perch	<i>Morone americana</i>
Largemouth Bass	<i>Micropterus salmoides</i>	Windowpane	<i>Scophthalmus aquosus</i>
Little Skate	<i>Leuconaja erinacea</i>	Winter Flounder	<i>Pseudopleuronectes americanus</i>
Longfin Squid	<i>Loligo peali</i>	Yellow Perch	<i>Perca flavescens</i>

Table 5. Recommended species for the development of dissolved oxygen criteria for Mount Hope Bay and the Taunton River. The blue shading indicates species included in the Virginian Province criteria data base.

Recommended Species			
Common Name	Scientific Name	Common Name	Scientific Name
Alewife	<i>Alosa pseudoharengus</i>	Mantis Shrimp	<i>Squilla empusa</i>
American Eel	<i>Anguilla rostrata</i>	Mummichog	<i>Fundulus heteroclitus</i>
American Lobster	<i>Homarus americanus</i>	Mysid Shrimp	Mysidae
American Shad	<i>Alosa sapidissima</i>	Naked Goby	<i>Gobiosoma bosc</i>
Atlantic Cod	<i>Gadus morhua</i>	Northern Kingfish	<i>Menticirhus saxatilis</i>
Atlantic Menhaden	<i>Brevoortia tyrannus</i>	Northern Pipefish	<i>Syngnathus fuscus</i>
Atlantic Nut Shell	<i>Nucula spp.</i>	Northern Searobin	<i>Prionotus carolinus</i>
Atlantic Silverside	<i>Menidia menidia</i>	Oyster Toadfish	<i>Opsanus tau</i>
Atlantic Sturgeon	<i>Acipenser oxyrinchus oxyrinchus</i>	Quahog (Hard clam)	<i>Mercenaria mercenaria</i>
Atlantic Surfclam	<i>Spisula solidissima</i>	Rainbow Smelt	<i>Osmerus mordax</i>
Atlantic Tomcod	<i>Microgadus tomcod</i>	Red Hake	<i>Urophycis chuss</i>
Banded Killifish	<i>Fundulus diaphanus</i>	Sand Lance	<i>Ammodytes spp.</i>
Bay Anchovy	<i>Anchoa mitchilli</i>	Sand Shrimp	<i>Crangon septemspinosa</i>
Black Sea Bass	<i>Centropristis striata</i>	Say Mud Crab	<i>Dyspanopeus sayi</i>
Blue Crab	<i>Callinectes sapidus</i>	Scup	<i>Stenotomus chrysops</i>
Blue Mussel	<i>Mytilus edulis</i>	Seaboard Goby	<i>Gobiosoma ginsburgi</i>
Blueback Herring	<i>Alosa aestivalis</i>	Sheepshead Minnow	<i>Cyprinodon variegatus</i>
Bluefish	<i>Pomatomus saltatrix</i>	Shortnose Sturgeon	<i>Acipenser brevirostrum</i>
Bluegill	<i>Lepomis macrochirus</i>	Silver Hake	<i>Merluccius bilinearis</i>
Brook Trout (sea-run)	<i>Salvelinus fontinalis</i>	Smooth Dogfish	<i>Mustelus canis</i>
Butterfish	<i>Peprilus triacanthus</i>	Softshell Clam	<i>Mya arenaria</i>
Cancer Crabs	<i>Cancer irroratus</i> & <i>C. borealis</i>	Spider Crab	<i>Libinia emarginata</i>
Channeled Whelk	<i>Busycotypus canalictulatus</i>	Spot	<i>Leiostomus xanthurus</i>
Eastern Oyster	<i>Crassostrea virginica</i>	Striped Bass	<i>Morone saxatilis</i>
Four-eye Amphipod	<i>Ampelisca abdita</i>	Striped Killifish	<i>Fundulus majalis</i>
Fourspine Stickleback	<i>Apeltes quadracus</i>	Summer Flounder	<i>Paralichthys dentatus</i>
Green Crab	<i>Carcinus maenas</i>	Tautog	<i>Tautog onitis</i>
Grubby	<i>Myoxocephalus aeneus</i>	Threespine Stickleback	<i>Gasterosteus aculeatus</i>
Hogchoker	<i>Trinectes maculatus</i>	Tube Worm	<i>Mediomastus ambiseta</i>
Horseshoe Crab	<i>Limulus polyphemus</i>	Weakfish	<i>Cynoscion regalis</i>
Knobbed Whelk	<i>Busycon carica</i>	White Perch	<i>Morone americana</i>
Largemouth Bass	<i>Micropterus salmoides</i>	Window pane	<i>Scophthalmus aquosus</i>
Little Skate	<i>Leucomja erinacea</i>	Winter Flounder	<i>Pseudopleuronectes americanus</i>
Longfin Squid	<i>Loligo peali</i>	Yellow Perch	<i>Perca flavescens</i>

Updated Table 5: Representative Important Species (RIS) developed for Brayton Point Station, Taunton River Desalination Plant, and Taunton Municipal Lighting Plant.

Representative Important Species		
Brayton Point Station	Taunton River Desalination Plant	Taunton Municipal Lighting Plant
Alewife	Alewife	Alewife
Altantic Menhaden	Altantic Menhaden	Altantic Menhaden
American Sand Lance	American Eel	American Shad
Atlantic Nutworm	American Shad	Banded Killifish
Atlantic Silverside	Blueback herring	Blue Crab
Bay Anchovy	Rainbow Smelt	Blueback Herring
Blue Mussel	White Perch	Bluegill
Bluefish		Hogchoker
Eelgrass		Largemouth Bass
Four-eye Amphipod		Threespine Stickleback
Hogchoker		White Perch
Quahog		Yellow Perch
Rainbow Smelt		
Scup		
Seaboard Goby		
Silver Hake		
Striped Bass		
Tautog		
Threespine Stickleback		
Tube Worm		
Weakfish		
White Perch		
Windowpane		
Winter Flounder		

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